

Remarks

Claims 1-43 are pending, of which claims 10-14 and 31-35 have been allowed and claims 1-9, 15-30, and 36-43 have been rejected. Claims 6, 7, 16, 18, 19, 27, 28, 39, and 40 are cancelled herein. Claims 1-5, 8, 9, 15, 17, 20-26, 29, 30, 36-38, and 41-43 are amended herein to more clearly recite the various embodiments of Applicants' invention. New claims 44-47 are added. No new matter is introduced.

Claim Rejection: Indefiniteness

The Examiner stated that Claims 1-43 were rejected under 35 U.S.C. § 112 ¶ 2, for failing to particularly point out and distinctly claim the inventive subject matter. Office Action, page 2, paragraph 3. However, since claims 10-14 and 31-35 have been allowed (Office Action, page 1; page 4, paragraph 7), Applicants understand that the indefiniteness rejection was made only with regard to claims 1-9, 15-30, and 36-43. Applicants respectfully traverse this rejection.

The Examiner considered it unclear from claims 1, 15, 23, and 36, why it is significant to use fewer than all of the issue slots and how the integrity of an operation may be preserved when the number of issued slots used is reduced by replacing with a non-equivalent operation. Office Action, page 2, paragraph 3. Applicants have amended claims 1, 15, 23, 36 and certain of their dependent claims to recite that the replacement is made with an equivalent operation associated with fewer issue slots, and that such replacement frees up issue slots for use by another operation or instruction. Support for these amendments can be found throughout the Specification, e.g., at paragraphs 5, 6, 16, and 17. The equivalent replacement as recited in the amended claims is thus an optimization of resource allocation for executing a multiplicity of operations including one or more that are typically associated with more than two issue slots.

Applicants believe that the amended claims clearly and distinctly recite the specific features of Applicant's invention and accordingly request that this rejection be withdrawn.

Claim Rejection: Anticipation

Claims 15-22 and 36-43 have been rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,076,154 (“*Van Eijndhoven*” hereafter). Office Action, page 3, paragraph 5. Applicants respectfully traverse this rejection.

Applicants have cancelled claims 16, 18, 19, 39, and 41, and amended claims 15, 17, 20-22, 36-38, and 41-43 to recite replacement of an instruction with its equivalent instruction associated with fewer issue slots when it is determined that such replacement can be made. Support for the replacement methods is provided throughout the specification.

Van Eijndhoven discloses flexible division of an instruction issue port into issue slots and based thereon, methods for compiling instructions for a VLIW processor that allocate commands to various instruction words. *Van Eijndhoven*, column 2, lines 10-28, lines 33-37, column 3, lines 43-51; column 5, line 56 – column 6, line 8. However, *Van Eijndhoven* does not disclose or suggest replacing an instruction that is typically associated with at least two issue slots with an equivalent instruction that is associated with fewer issue slots. *Van Eijndhoven* fails to teach each and every element of Applicants’ invention embodied in the amended claims and therefore cannot anticipate these claims.

Withdrawal of this rejection is respectfully requested.

Applicants added new claims 44-47 to recite, in the independent form, the steps of compiling a software program to allocate instruction words based on efficient use of the issue slots, as well as processor-readable medium having instructions for carrying out these steps. The subject matter of the new claims is covered in the original claims 6-7 (depending from claim 1) and 27-28 (depending from claim 23), all of which have been cancelled herein. Support for the new claims can be found in the Specification, at paragraphs 31-36. No new matter is introduced.

Applicants believe that the present application is now in condition for allowance of all claims herein, claims 1-5, 8-15, 17-26, 29-38, and 41-47. A Notice of Allowance is respectfully requested. The Examiner is invited to contact the undersigned if further discussion should advance prosecution.

Respectfully submitted,

A handwritten signature in black ink, appearing to be 'Qin Shi', written over a horizontal line.

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